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ABSTRACT

Causal attribution has been found to have a great effect on future performance. Causal attributions were studied across two academic subjects and two outcomes using an open-ended measure. All 180 ninth-graders in a girls' high school in the Bay Area of San Francisco (California) stated their best and worst subjects and provided their perceived causes for doing well or poorly in each subject. A simple questionnaire with six incomplete sentences was administered to the students. A total of 149 students returned the questionnaire. Causal attributions were then analyzed in terms of factors and dimensions. Effort was the most frequently mentioned factor for performance. Ability was the second most frequently named factor, followed by interest, task, and teacher. Although less than 12 students cited luck as a causal factor, all but one student indicated that luck was the reason for good performance in their worst subject. In general, the students attributed performance more to internal factors (effort, ability, and interest) than to external factors (task, teacher, and luck). The findings differ from previous research; the results show a different attribution pattern for success and failure if subject areas are distinguished. One table summarizes the frequencies of causal attributions. (SLD)

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DO ACADEMIC SUBJECT AREAS MATTER WHEN MAKING CAUSAL ATTRIBUTIONS?

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DO ACADEMIC SUBJECT AREAS MATTER WHEN MAKING CAUSAL ATTRIBUTIONS?

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Abstract

Causal attribution has been found to have great effect on future performance. Studies on causal attribution investigate either its consistency, or its influence on the learners in the hope to explore possible modifications. The methods of studying causal attribution vary in terms of measures, situations, and tasks. This study investigated causal attributions across two academic subjects and two outcomes using an open-ended measure. A whole standard of 180 grade nine female students stated their best and worst subjects and provided their perceived causes for doing well and doing poorly in each subject. From their responses, causal attributions were analysed in terms of factors and dimensions. Findings differ from previous results, and provide further insight for future research, especially on attribution retraining for academic performance.

Previous research has shown that attributions are closely related to performance, that they may serve to regulate subsequent achievement behaviours, and that certain causal attributions, more than others, are likely to be inferred for achievement outcomes (Arkin & Maruyama, 1979; Frieze & Weiner, 1971). It has been noted that if a person succeeds on a task at which most others have failed, it is likely that the success be attributed to internal factors (Frieze & Weiner, 1971), such as ability and effort. Events that are perceived as unique or unusual are more likely to be attributed to luck (Feather & Simon, 1971), for example, failing after a long series of successes or passing after a long series of failures.

There is a tendency to bias one's attributions. Some individuals tend to attribute their successes to their own efforts and abilities, while they attribute their failures to bad luck, task difficulty or teacher factor. Such tendency has two functions: an ego-protective function when an individual unduly denies responsibility for failure, and an ego-enhancing function when an individual takes excessive credit for success (Sicoly & Ross, 1977). However, the opposite bias also occurs. Some individuals attribute their successes to luck, task facility or teacher leniency, while they attribute their failures to their own abilities. These self-defeating patterns of attributions may be detrimental to self-esteem. That is, such causal perceptions do not enhance feelings of pride in a success situation, but they increase the feelings of shame in a failure situation (Bar-Tal & Darom, 1979). In view of the tremendous influence of causal attributions on the individuals and on subsequent tasks, several researchers (Nisbett & Schachter, 1966; Valins & Nisbett, 1971) discussed the possibility of "attribution therapy." However, before any decisions about intervention or training programs are planned, it is necessary to establish thorough understanding of attribution, its pattern and consistency.

Bar-Tal, Raviv, Raviv, & Bar-Tal (1982) investigated the question of whether students consistently use similar patterns of attributions over time and situations. Sixth-grade students were asked to attribute causes of success or failure after tests administered in three academic areas, i. e., Bible, Geography, and Mathematics. Consistency was measured between attributional patterns evident in two tests in the same subject area and between two tests in different subject areas. In both cases, students showed consistency in their attributions of causality, particularly if they perceived the test outcome to be the same (success-success or failure-failure). Unfortunately, Bar-Tal et al. (1982) and others (e.g., Ryckman & Peckham, 1987) did not explain how these subjects were related to the students in terms of their interest and liking.

I expect that attributions for success in one's best subject would be different from attributions for success in one's worst subject, and likewise, attributions for failure in one's worst subject would be different from attributions for failure in one's best subject. To succeed in one's best subject or to fail in one's worst subject is normal and expected. But to fail in one's best subject or to do well in one's worst subject is unusual and unexpected. Moreover, I believe that causal ascriptions vary from one subject area to another (Ryckman & Peckham, 1987) due to whether or not the participants have the aptitude for that task. It is, therefore, desirable to focus pupils' perception on a particular academic area under two different subjects--the best and the worst.

Furthermore, consistency of attribution studied by Bar-Tal et al. (1982) was outcome specific. A single or even a three-time success or failure can hardly generate what attribution style the individual has and whether it can be considered as consistent. For the planning of intervention and the task

used, we need to know the general attribution style of the individual learner in an academic subject, and not what his causal attribution for one or two academic outcomes. So, causal attribution made after an outcome may not be an accurate indication of the overall style of the learner for that subject. I also believe that "success" and "failure" are, at most times, governed by the marks awarded or the teachers' comments, or the level considered as success fixed by the researcher (Bagchi, 1987). Since causal attribution is a perception, it would be more appropriate to ask pupils to ascribe the causes for their perceived good performance and poor performance instead of success and failure.

Almost all the attribution studies reviewed used either paper-and-pencil tests (Arkin & Maruyama, 1979; Crandall, Katkovsky & Crandall, 1965; Russell, 1982; Ryckman & Peckham, 1987), in an imagined or induced experimental situation to reach at success or failure outcome (Andrews & Debus, 1978; Nicholls, 1975; Ryckman & Peckham, 1987), and with tasks like anagrams (Elig & Frieze, 1979; Nicholls, 1975; Tennen & Eller, 1977). The former is considered either too general or too restricted in the causal factors as suggested in the items, while the latters are thought to be rather artificial and unrelated to the academic subjects and reality. Then, what kind of causal attribution do pupils make in a real classroom situation when they are left to their own device without the influence of an instrument? To answer this question, this study used an open measure to probe into the perceived causes of pupils in two subject areas of their choice under two different levels of performance.

Method

After a briefing about the study during school assembly, the researcher administered a simple questionnaire with six incomplete sentences to all

the180 ninth graders in a girls' high school in the Bay Area, San Francisco. One hundred and forty-nine students returned the questionnaire stating their best and worst subjects and the reasons for doing well and poorly in each. The responses were categorized into factors (ability, effort, luck, and task, etc.). The assistant principal of the school had kindly coded 10% of the questionnaires to help check the reliability of categorizing. A high agreement of 78% was found between the assistant principal and the researcher, and 96% between coding and recoding.

Results and Discussion

What causal attributions do ninth-graders make for their performance? The distribution of the responses in Table 1 suggests that the ninth-graders named more causal factors than were postulated (Heider, 1958; Weiner, 1979; Weiner, Frieze, Kukla, Reed, Rest & Rosenbaum cited in Jones, Kanouse, Kelley, Nisbett, Valins & Weiner, 1971, PP. 95-120). Interest as well as teacher factors were also given as causes for both levels of performance-- doing well or poorly. On the other hand, luck was not so common a causal factor as claimed by Weiner et al. In view of such findings, structured questionnaires probing into causes for performance have their limitations. Perhaps, a multidimensional multiattributional causality scale (e.g., Lefcourt, Baeyer, Ware & Cox, 1979; Russell, 1982) should be designed and validated for future application.

On the whole, effort was the most frequently mentioned factor for performance. The presence or absence of it makes a difference in the outcome. Ability was the second most often named as a cause for academic achievement, followed by interest, task and teacher. Some students left their responses blank when asked for reasons for their performance. A few students claimed that they never did poorly in their best subject, and another

Table 1
Frequencies of Causal Attributions in Terms of Factors, Subject Areas and Performance

	Best subject		Worst subject		Total		Total	
	Performance		Performance		Performance		Performance	
Factors	Good	Poor	Good	Poor	Good	Poor	Expected	Unexpected
Ability	32	27	24	*42	56	69	74	*51
Effort	29	***75	80	**46	109	121	75***	155
Interest	45	***11	4	***25	49	36	70	***15
Luck	1	0	10	*0	11	***0	1	**10
Task	26	15	14	20	40	35	46	*29
Teacher	14	**2	6	13	20	15	27	**8
Health	0	3	0	0	0	3	0	3
No reason	1	1	0	0	1	1	1	1
Never	0	3	6	0	6	3	0	**9
Blank	1	**12	5	3	6	*15	4	**17

Note: Asterisks between two numbers indicate a significant difference between the pair of numbers.
* indicates $p<.05$; **indicates $p<.01$; ***indicates $p<.001$.
Expected performance is good performance in best subject or poor performance in worst subject.
Unexpected performance is poor performance in best subject or good performance in worst subject.

few confessed that they never did well in their worst subject. Although less than a dozen gave luck as a causal factor, all but one offered it to explain their good performance in their worst subject. Health factor was ascribed a couple of times, only for poor performance in their best subject. In general, this group of ninth graders attributed their performance more to internal causes (effort, ability and interest) than they attributed to external factors (task, teacher and luck).

Looking at the performance of the best and worst subjects separately, students mentioned effort most frequently as a cause for their poor performance, significantly more than for their good performance ($x^2 = 20.35$, $p < .001$) in their best subject. On the other hand, interest and teacher factors were the frequent causes for their good performance, significantly more often cited than when they did poorly ($x^2 = 20.64$, $p < .01$; $x^2 = 9$, $p < .05$ respectively). The reverse was true in their worst subject when attributing to effort, interest, as well as task and teacher, although the latter two factors showed no significance between the frequencies for the different outcomes. Although ability was the second most frequently quoted factor, there was no significant difference between the two levels of performance in the best subject, while significantly more of it were cited for doing poorly than doing well in the worst subject ($x^2 = 4.91$, $p < .05$). The analyses suggest that it makes a great difference if different subject area is used in the exploration of consistency and pattern of causal attribution (Ryckman, & Peckham, 1987).

So far, results are not consistent with previous studies. The present findings show a different attribution pattern for "success" and "failure" if subject areas are different. A further analysis (see Table 1) illustrates a more stable pattern. I combined the columns of good performance in best subject with poor performance in worst subject under expected performance.

Likewise, the poor performance in best subject is combined with good performance in worst subject to form the unexpected performance column. Now, almost all the common factors show a difference in the ascription of causes between the expected and unexpected performance.

Effort and luck are significantly stated more often for unexpected outcomes (e.g., doing poorly in best subject, and doing well in worst subject) than for expected outcomes. Contrarily, ability, interest, task, and teacher are attributed significantly more by students for expected outcomes than for unexpected outcome. In other words, expected outcomes more than unexpected outcomes are due to uncontrollable and stable factors; whereas, unexpected performance are attributed more to a controllable, unstable and internal or external factor like effort or luck. This is doubtless a logical finding suggesting that if students want to produce unexpected performance--good results in worst subjects, or bad result in best subject--they can expend or reduce effort, or leave entirely to luck.

Conclusion

The present findings offer new insight to future studies. Since there are more causes for success and failure than the four common ones, namely, ability, effort, task, and luck, an open-ended measure seems to be less restrictive and more appropriate. A multidimensional multiattributional causality scale is certainly useful for both research and practical application, especially for older and literate participants.

When lumping the causes for doing well or doing poorly regardless of whether it was their best subject or worst subject in this study, I find no significant differences between the frequencies of each of the causes made. Such finding cautions us that when we study attribution style, we should make sure whether the subject matter is one that the participants like or

dislike, in other words, whether or not our participants have the aptitude for the task performed. We cannot simply determine their attributional style by taking any convenient subject matter or task and their ascriptions for their performance. It is profitless even if harmless to identify the wrong student for modification purposes.

Moreover, success and failure are oftentimes predetermined or induced by the experimenters which render the study unrelated to actual perception of "success" and "failure." A general perception of the students, over time and for the whole subject area, will certainly be more accurate to explore for attribution style.

The sample under study failed to include male students and students of various age range. It is important and useful to consider gender, age and culture in future studies.

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